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PATENT & TRADEMARK OFFICE

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT COPY

WRITTEN OPINION

(PCT Rule 66)

To: RICHARD L. BYRNE
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Date of Mailing *(day/month/year)* 22 NOV 2002

Applicant's or agent's file reference
3576-011922

REPLY DUE within ONE months from the above date of mailing

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US01/45007	30 NOVEMBER 2001	30 NOVEMBER 2000

International Patent Classification (IPC) or both national classification and IPC
IPC(7): B01D 15/00; B01J 20/20; C01B 31/12; C02F 1/28 and US Cl.: 210/694; 502/426

Applicant
ENVIROTROL, INC.

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I [X] Basis of the opinion
- II [ ] Priority
- III [ ] Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV [ ] Lack of unity of invention
- V [X] Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI [ ] Certain documents cited
- VII [ ] Certain defects in the international application
- VIII [X] Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension., see Rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 *bis*.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 30 MARCH 2003

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
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IVARS CINTINS

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WRITTEN OPINION

International application No.
PCT/US01/45007

I. Basis of the opinion

1. With regard to the elements of the international application:*

[X] the international application as originally filed

[X] the description:
pages 1-13 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the claims:
pages 14-19 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the drawings:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

[X] the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

[ ] the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

[ ] the language of publication of the international application (under Rule 48.3(b)).

[ ] the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

[ ] contained in the international application in printed form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readable form.

[ ] The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] The statement that the information recorded in computer readable form is identical to the writen sequence listing has been furnished.

4. [X] The amendments have resulted in the cancellation of:

[X] the description, pages NONE

[X] the claims, Nos. NONE

[X] the drawings, sheets/~~fig~~ NONE

5. [ ] This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".*

WRITTEN OPINION

International application No.
PCT/US01/45007

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO
Inventive Step (IS)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO
Industrial Applicability (IA)	Claims	(Please See supplemental sheet)	YES
	Claims	(Please See supplemental sheet)	NO

2. citations and explanations

Claims 1, 2, 6-12 and 14 lack novelty under PCT Article 33(2) as being anticipated by Kashiba (U.S. Patent No. 6,114,162) because the reference discloses the claimed composition and method for its preparation. See col. 2, lines 36-40 and 53.

Claims 1, 7-12 and 14 lack novelty under PCT Article 33(2) as being anticipated by Roy (U.S. Patent No. 5,348,755) because the reference discloses the claimed composition and method for its preparation. See col. 11, lines 34-56.

Claims 1, 9, 17, 22, 23 and 28 lack novelty under PCT Article 33(2) as being anticipated by Helmig (U.S. Patent No. 5,437,797) because the reference discloses the claimed composition and method for its use. See col. 2, lines 23-24.

Claims 1 and 7-9 lack novelty under PCT Article 33(2) as being anticipated by Kinkead et al. (U.S. Patent No. 5,626,820) because the reference discloses the claimed composition. See col. 9, lines 26-27.

Claims 3-5, 13, 15 and 16 lack an inventive step under PCT Article 33(3) as being obvious over Kashiba. Kashiba discloses the claimed invention with the exception of the amount of carboxylic acid and water present in the composition (claims 3-5 and 13), the duration of contact between the carboxylic acid and activated carbon (claim 15), and the drying time and temperature employed (claim 16). However, the exact amount of carboxylic acid and water present in the reference composition, the exact amount of time that the carboxylic acid and activated carbon are contacted with one another, and the exact drying time and temperature employed are not seen to materially affect the overall results of the reference system, or to produce any new and unexpected results; and are therefore deemed to be obvious matters of choice.

Claims 3, 6, 13, 15 and 16 lack an inventive step under PCT Article 33(3) as being obvious over Roy. Roy discloses the claimed invention with the exception of the amount of carboxylic (Continued on Supplemental Sheet.)

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 6, 8, 9, 12-15, 19, 21, 22 and 27 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claims are indefinite for the following reasons: The terms "such as" (claims 6 and 19, line 3), "useful as" (claims 9 and 22, line 3) and "preferred amount" (claims 12 and 14, line 3) are vague, and indefinite as to the limitations intended. Also, the recitation of ammonium, sodium or potassium salts in the Markush group of claims 8, 21 and 27 is indefinite, since these salts do not appear to be hydroxy carboxylic acids, as recited in line 2 of these claims. Claims 13 and 15 depend from indefinite claims 12 and 14, respectively, and are therefore themselves indefinite.

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

V. 1. REASONED STATEMENTS:
The opinion as to Novelty was positive (YES) with respect to claims 3-5, 13, 15, 16, 18-21 and 24-27.
The opinion as to Novelty was negative (NO) with respect to claims 1, 2, 6-12, 14, 17, 22, 23 and 28.
The opinion as to Inventive Step was positive (YES) with respect to claims 20, 21, 26 and 27.
The opinion as to Inventive Step was negative (NO) with respect to claims 1-19, 22-25 and 28.
The opinion as to Industrial Applicability was positive (YES) with respect to claims 1-28.
The opinion as to Industrial Applicability was negative (NO) with respect to claims NONE.

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):
acid present in the composition (claims 3 and 13), the source of the activated carbon (claim 6), the duration of contact between the carboxylic acid and activated carbon (claim 15), and the drying time and temperature employed (claim 16). However, the exact amount of carboxylic acid present in the reference composition, the exact source of the activated carbon in this reference, the exact amount of time that the carboxylic acid and activated carbon are contacted with one another, and the exact drying time and temperature employed are not seen to materially affect the overall results of the reference system, or to produce any new and unexpected results; and are therefore deemed to be obvious matters of choice.

Claims 3, 6, 18, 19, 24 and 25 lack an inventive step under PCT Article 33(3) as being obvious over Helmig. Helmig discloses the claimed invention with the exception of the amount of carboxylic acid present in the composition (claims 3, 18 and 25), the source of the activated carbon (claims 6 and 19), and the pH difference between the treated and untreated aqueous solutions (claim 24). However, the exact amount of carboxylic acid present in the reference composition, the exact source of the activated carbon, and the exact pH difference between the treated and untreated aqueous solutions are not seen to materially affect the overall results of the reference process, or to produce any new and unexpected results; and are therefore deemed to be obvious matters of choice.

Claims 20, 21, 26 and 27 meet the criteria set out in PCT Article 33(2)-(3) because the prior art does not teach or fairly suggest purifying an aqueous solution with an activated carbon composition comprising activated carbon and a hydroxy carboxylic acid.

Claims 1-28 have industrial applicability as defined by PCT Article 33(4) because the subject matter claimed can be made or used in industry.

---------- NEW CITATIONS ----------
NONE